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ABSTRACT

A number of misconceptions or "myths" about information management have arisen since the beginning of the Information Age. One misconception is that the problem of information overload stems from too much information. In reality, the greater problem may be an explosion of noninformation. Many people believe that they must try to stay on top of continuous streams of information because of economic, social, and employment-related pressures. Although some have concluded that the solution is to forget about keeping up, others have advised focusing less on acquisition of information products and more on information processes (thinking about and interacting with information). Other misconceptions are that the World Wide Web is a one-stop source for all information needs and that the secret to information management is knowing how to navigate the Web. Because the Web encourages breadth over depth, however, users must be wary of relying on any single information source and must develop the critical literacy skills required to evaluate the accuracy of the information. As lifelong learners themselves, adult educators can demonstrate for learners that the key to information management is self-management: identifying one's own information needs, being one's own filter and editor, and taking both a wide and deep perspective in information seeking. (Contains 10 references.) (MN)

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# Information Management
# Myths and Realities

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Myths and REALITIES
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ERIC Clearinghouse on Adult, Career, and Vocational Education

# Information Management

Information Overload. Info-glut. Infobog. Data Smog. As information proliferates so do the labels for this malaise of the "Information Age." In this half-century, for the first time in history, the capacity for producing information is far greater than the human capacity to process it (Shenk 1997). Self-directed adult learners need information management skills, and adult educators, who are dealing with overload themselves, can guide them in acquiring these skills. As people attempt to manage the tidal wave of information, a number of misconceptions have arisen. This publication explores some of these misconceptions, concluding with suggestions for better information management.

## Too Much Information?

The "pervasive, invasive information infrastructure...is as much a part of our lives as religion was for medieval serfs" (Tetzeli 1994, p. 60). But is it too much? We've all seen the mind-numbing statistics about the exponential growth of information and of technological means of distributing and accessing it. However, some people question whether the problem really is one of overload. One source of the problem is actually the multiplicity of communication channels. Unlike earlier eras, such as when printing presses replaced manuscript copying, new technologies are not replacing older ones but are adding to the host of media choices (Davidson 1996). With these multiple channels the information flow is now simultaneous and multidirectional. However, most traditional information management practices are too linear and specific: they were pipes developed for a stream, not an ocean (Alesandrini 1992). The sheer quantity of information and the speed with which it can be acquired give an illusion of accomplishment (Uline 1996).

But what good is all this information if it is not usable? "Almost all our resources are dedicated to gathering the raw material—information—and almost nothing is spent on the most important job of transforming information into intelligence" (Milton 1989, p. 6). Milton suggests that it is possible to have "negative information"—that which causes the recipient to know less than before because it is not integrated, applied, and transformed into knowledge. Essential to information mastery is understanding the relationship between data, information, and knowledge (TAFE-TEQ 1992): data are raw facts and figures, information is data organized into a meaningful context, and knowledge is organized data (i.e., information) that has been understood and applied.

Perhaps it is not too much "information," but an explosion of "noninformation" (Wurman 1989) lacking relevance, quality, and usefulness. What is needed is better judgement of the quality, accuracy, and reliability of what is received (Kinnaman 1994). According to John Seeley Brown, people may perceive overload because the information they receive does not fit into current mental models for understanding the world (Tetzeli 1994). The problem of information overload thus has both technological and human aspects. The solution is also two pronged: both technological—create better technological tools and make better use of them—and human—revise mental models and sharpen the capacity for critical reflection and analysis.

## I've Got to Keep Up!

Many people believe they have to try to stay on top of information because of economic, social, and employment-related pressures. The twin demons of speed and quantity create an artificial sense of urgency: with e-mail, voice mail, fax, and the Web, continuous streams of data are possible 24 hours per day at work, at home, and during the commute between.

The consensus of many books and articles (yes, an overload of information about information overload) is to forget about keeping up. "The Infobog becomes easier to handle once you accept it as a part of life" (Tetzeli 1994, p. 62). Davidson (1996) believes that most decisions are not of long-term importance, so it is acceptable to let go of lower-level choices and their related information needs. No one is immune from the impossibility of keeping up; rather than being paralyzed by the attempt, Davidson advises putting one's stake in the ground when instinct indicates that enough is known for a decision to be made.

For Wurman (1989), ignorance is the only state in which one can learn, but most people are reluctant to admit not knowing. One source of information anxiety is others' expectations of what we should know. In addition, society does not reward admissions of ignorance, so no one wants to be the first to press the "off" button. As Dvorak (1996) puts it, "just because you have a library card doesn't mean you're required to read every book in the Library of Congress" (p. 87). Lenox and Walker (1993) suggest that it is more important to know where and how to find what one needs to know. The focus should be less on the acquisition of information products than on the execution of information processes—thinking about and interacting with information.

## It's All on the Web

One myth rapidly taking hold is that the World Wide Web is a one-stop source for all information needs and the secret to information management is in knowing how to navigate it. The capacity for speed, quantity, and ease of access make the Web a highly attractive information source, and there is also what Wurman (1989) calls "aesthetic seduction," the graphical display that makes information look good. However, "a piece of information performs when it successfully communicates an idea, not when it is delivered in a pleasing manner" (ibid., p. 125).

The Internet gives the impression that the pace of change has accelerated, but Dvorak (1996) attributes that to the fact that the Web has simply removed natural barriers between people and information they would otherwise never see. It may all have been *out there* before, but it was not easily accessible. What is often forgotten is that availability does not lend importance, accuracy, utility, or value to the content (Berghel 1997). Because everyone can (and seemingly does) publish on the Web, the responsibility for quality control is now on the receiver. However, "research has shown that many people feel that information gained through a computer screen is more reliable than that from any other source" (Breivik and Jones 1993, p. 29). Kinnaman (1994) tells of companies that published reports on computer printout paper because people were more accepting of their authority.

On the other hand, the attraction of the Internet for some people is independence from authority (McKenzie 1996). The lack of centralized quality control and the expansion of access may be good for democracy. However, as in any democratic institution the risks of demagoguery are present if people are not able to judge the quality and accuracy of sources (Kinnaman 1994). Sven Birkerts suggests that deep reading and thought are necessary to discover the truth in information (McKenzie 1996), but the Web encourages breadth over depth. As with any information source, critical information literacy is vital, and users must be wary of overreliance on any single information source.

## Just Build a Better Mousetrap

One school of thought holds that better ways of structuring and retrieving information will help curb the information monster,

especially that multiheaded beast, the World Wide Web. Koniger and Janowitz (1995) assert that "information is valuable only to the extent that it is structured" (p. 6). The Web, they say, has dissolved familiar structures, so the medium is no longer a reliable indicator of the type of information it contains. Without preconceived notions of content, new kinds of information structures are needed. Rather than less information, Berghel (1997) and Koniger and Janowitz (1995) advocate information *about* information: cues provided by layout, typography, interaction method, color, etc. Researchers are developing "metadata" ("The Internet" 1997), electronic labels that describe aspects of Web content beyond the "page" metaphor, helping orient users to what can be found at a site. Other technological solutions available or under development (Berghel 1997) include (1) intelligent agents, software that automatically scans, filters, retrieves, and processes e-mails, voice mail, websites, and other sources to suit individual needs; (2) "push" technology such as PointCast and Marimba, which receives documents from various web sources, selects appropriate content according to user preference profiles, and downloads it to the desktop; and (3) "repel" technology, which may prevent unwanted information from finding its way to the desktop.

Although search engines and indexes provide some structured means of retrieving specific information, they are in many ways imperfect (Berghel 1997; "The Internet" 1997): being machines they overindex, excluding little; they categorize information differently than people do, providing uniform and equal access to everything; they do not always extract the right information because websites are not standardized; and they largely index text only. In addition, many providers are involved with transmission and storage, but too few are devoted to facilitating understanding (Wurman 1989). Wurman sees a need for translators and interpreters who focus on making information accessible and comprehensible. Berghel (1997) also wants information providers who grade, rank, review, annotate, and repackage information. As some acquire a reputation for quality and reliability, the choices information seekers must make are simplified.

However, others do not necessarily see salvation in better retrieval methods. The problem may not be retrieval, but the clash of information that is retrieved (Uline 1996). Sometimes generating, acquiring, and managing information become ends in themselves: we become "so enamored of our tools that we are enticed to use them simply because we *can*" (ibid., p. 31). It is possible to retrieve information (physical access) but be unable to understand it (intellectual access) (Wurman 1989). Time pressures and the comfort of familiarity may make people rely on information sources that are immediately available and accessible, but not necessarily the best (Savolainen 1995).

Again, it is as much a human as a technological issue. Kinnaman (1994) says that education emphasizes navigation of information sources over critical analysis, integration, and application. Lenox and Walker (1993) also criticize an antiquated educational paradigm that emphasizes acquisition, access, storage, and retrieval of discrete and fragmentary information (with computers and without). They urge development of the capacity for inquiry. The goal of information seeking should be finding the answers to personally meaningful questions. McKenzie (1996) considers questioning "the primary technology to make meaning(s). Questioning converts data into information and information into insight."

## The Answer Is Knowing the Right Questions

Perhaps, as Shenk (1997) suggests, humans have not evolved fast enough to keep pace with information. We are still using the classic information retrieval model, which attempts to find the best match between mental "boxes" (questions) and structured information "boxes" that contain the answers (Hert 1994). Today, information management demands new metaphors. Hert (1994) suggests looking at the universe of information as (1) superhighway (learn how to drive, i.e., use the tools); (2) cyberspace (learn where to go, i.e., navigate); (3) city/community (critically question who put this information here? why? where are similar things found?); and (4) mine (discover available shafts, find and separate nuggets, refine them into ore, i.e., create knowledge). Hert's preferred metaphor is "ecosystem": in the information ecosystem, services and resources are constantly adapting to fill niches; foragers seeking "nutrients" strategically choose the ways in which they will browse and determine sources of high interest and value relative to the costs of obtaining them.

As lifelong learners themselves, adult educators can demonstrate for learners that the key to information management is self-management: knowing what you need to know. They can guide learners in finding their own personal pathway to information mastery. Shenk (1997) and Alesandrini (1992) offer some strategies for finding the way through the data smog onto that pathway: (1) be your own filter—turn off unneeded data streams; (2) be your own editor—ask whether the information you disseminate is absolutely necessary; and (3) use both a wide-angle and a zoom lens—"those who survive information overload will be those who search for information with broadband thinking but apply it with a single-minded focus" (Alesandrini 1992, p. 92). Shenk (1997) believes that concern about information have-nots is misplaced: everyone needs education more than information. "Education is the one thing we can't get overloaded with. The more of it the better" (p. 203).

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